

Data Digs

Reporting Category Probability and Statistics

Topic Interpreting data

Materials

- Data from the “Data in Our World” lesson (1.14)

Vocabulary

more, less, fewer, greater than, less than, equal to, data, survey, picture graph, object graph

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Using a graph that was created during the “Data in Our World” lesson, ask students what the survey question was and what information we wanted to know and show on the graph (e.g., lunch choices—how many brought a lunch from home, how many bought tray lunch in the cafeteria, and how many bought a salad). Ask them how they showed their gathered data (e.g., put the correct numbers of linking cubes in the columns on the graph).
2. Ask students to look at the graph and identify whether *more* people bought a tray lunch or *more* people bought a salad. Have a volunteer come and point to the graph to explain how he/she determined the answer. Ask questions such as the following:
 - Which is *greater*, the number of people who bought a salad or the number of people who brought lunch from home? How do we know?
 - Which column has *fewer* cubes, the one showing how many bought a tray lunch or the one showing how many brought lunch from home?
 - Are there any lunch choices that are *greater than* the salad choices? How do you know?
 - Are there any lunch choices that are *less than* the salad choices? How do you know?
 - Are there any lunch choices that are *equal* to each other? What does *equal* mean?
 - What two categories are closest to each other? How do you know?

Assessment

- **Questions**
 - “Look at our data. Can you tell me how many more people brought a lunch from home rather than bought a salad today? How can you tell?”
 - “Do you think our graph will look the same tomorrow? Why, or why not? Why do you think so many people bought lunch today?”
- **Journal/Writing Prompts**
 - “Draw our graph, and write at least two sentences that tell about our data. Use at least two of these words in your sentences: *more, less, fewer, greater than, less than, equal to.*”

- “Explain why people use graphs. Describe at least one good thing about a graph.”
- “Think about the different types of graphs you have seen. Draw a picture of some of the graphs you have seen in our classroom or in our school.”
- **Other**
 - Provide various pictures for students to sort and graph in the math center. Students may draw pictures in their journals of the graphs they made.
 - Provide manipulatives such as attribute blocks, pattern blocks, and cubes for students to use to make graphs of data. Have students discuss their graphs with you, and ask them questions about the data represented in their graphs.

Extensions and Connections (for all students)

- Have students go on a graph hunt in the school to find other classrooms and/or hallways where graphs are displayed. Discuss the graphs with students.
- Visit a fourth- or fifth-grade classroom to have those students share with your students how they use graphs to help them learn about science (e.g., weather, plant growth).

Strategies for Differentiation

- Use grid paper to assist students in lining up vertical columns for graphs.
- Make an object graph with the students themselves to show the number of girls and boys in the classroom. Have students identify which group has *more* or *fewer* members by pairing up with a partner.
- Provide students with three picture graphs, and have them determine which graph represents the collected data.